

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/JP2004/019708

International filing date (day/month/year)
22.12.2004

Priority date (day/month/year)
24.12.2003

International Patent Classification (IPC) or both national classification and IPC
G06F3/033

Applicant
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1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☒ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**International application No.
PCT/JP2004/019708**10/552977****Box No. I Basis of the opinion**

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material:
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing:
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

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Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

| | | |
|-------------------------------|-------------|------------|
| Novelty (N) | Yes: Claims | 4-8, 10 |
| | No: Claims | 1-3, 9, 11 |
| Inventive step (IS) | Yes: Claims | |
| | No: Claims | 1-11 |
| Industrial applicability (IA) | Yes: Claims | 1-11 |
| | No: Claims | |

2. Citations and explanations

see separate sheet

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

Re Item V

**Reasoned statement with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

1. Reference is made to the following document(s):

D1: JP-A-11109880 (Japan Aviation Electron Ind Ltd), 23 April 1999
D2: JP-A-2001 282 442 (Brother Ind Ltd), 12 October 2001
D3: WO 00/25 193 (VIA, Inc), 4 May 2000
D4: DE-U-202 00 930 (Koch), 1 August 2002
D5: US-A-5 396 443 (Mese et al.), 7 March 1995 *

* refers to a document cited as evidence of the skilled person's general knowledge.

2. The application does not meet the requirements of Article 6 PCT, because the claims are not clear.

- 2.1. Claim 8, which refers to claim 4, has not been grouped together with claim 4, although claims 5 to 7 do neither directly nor indirectly refer to claim 4, contrary to the requirements of Rule 6.4(c) PCT, according to which all dependent claims shall be grouped together to the extent and in the most appropriate way possible. It is therefore suggested to place present claim 8 after claim 4 and before claim 5.

The same objection applies to claims 9 and 11.

- 2.2. Claim 4, which refers to claim 1, refers to a rigidity adjusting member, which is mentioned only in claim 3. Hence, claim 4 should refer to claim 3. The same objection applies to claims 5 and 6.

Likewise, in claim 5, which depends on claim 1, the expression "start of input" implies that the apparatus is suitable for input. However, in claim 1, the statement "for effecting at least one of display and input" suggests that this apparatus might not be suitable for that purpose. The only claim which refers to an input means which is not

optional is claim 2. Hence, in addition to claim 3 (see section 2.1 above), claim 5 should refer to claim 2 in order for it to be consistent. The same objection applies to claim 6.

- 2.3. In claim 4, page 37, lines 2 and 3, the expression "surface having a *certain degree* of rigidity" is vague and indefinite. The claim should specify which degree of rigidity is meant, either as a numerical value or range, or in terms of functional features.

Likewise, in claims 6 and 7, the rigidity which is necessary for the apparatus should be specified.

3. The subject-matter of independent claim 1 does not meet the requirements of Article 33(2) PCT, because it is not new.
- 3.1. Document D1 (see in particular figures 3, 4 and accompanying text) discloses a touch screen (10) comprising a flexible sheet (12), as well as means (28) for adjusting its rigidity. When a user inputs text on the flexible sheet (12), he increases its rigidity by bending the sheet by sliding a fastener (34) in a slot (30) (see page 7, lines 4 to 16).

Hence, D1 discloses in combination all the features of claim 1, whose subject-matter is therefore not new.

- 3.2. Likewise, the subject-matter of claim 1 is anticipated by D2. This document (see in particular figure 1 and accompanying text) discloses a display screen comprising a flexible sheet (and hence suitable *at least* for displaying information) whose rigidity is controllable. The display sheet is placed over a flexible sheet of a material having a shape memory, which is flexible when it is not heated and rigid when it is heated, and hence comprises implicitly a rigidity control means (see page 4, paragraph 3 in combination with page 6, last paragraph to page 7, paragraph 1).
- 3.3. Moreover, this subject-matter is known from D3 as well. This document (see in particular the figures and the abstract from the Patent Abstracts of Japan) discloses a flexible (namely rollable) display screen (1) whose rigidity is adjusted with a flexible

sheet made of a material (2) having a shape memory positioned under the screen (1). The material (2) is heated for using and not heated for storing.

- 3.4. Finally, the subject-matter of claim 1 lacks novelty over D4. This document (see in particular the figures and the abstract from the Patent Abstracts of Japan) discloses a touch pad (1) formed by a sheet (26) of a flexible material, whose rigidity is controlled by a frame (22) made of a material having a shape memory. The wire (22) is heated for using and not heated for being stored (i.e. folded position).
4. Dependent claims 2 to 11 do not contain any additional features which, in combination with the features of any claim to which they refer, meet the requirements of Article 33(2) PCT with respect to novelty and Article 33(3) PCT with respect to inventive step.
- 4.1. The additional features of claim 2 (combining functions of input and display on the flexible sheet) are known from D1 (see section 3.1 above). Likewise, those of claim 3 (material having a variable resistivity) are known from documents D2 to D4.
- 4.2. Regarding claims 4 to 6, their additional features amount to avoid to supply power to the rigidity means when it is not needed (i.e. when the device is on a surface, or when no data is input on the touch screen). However, such a problem is known from D5, which discloses a touch screen as the present application. This document discloses (see in particular figures 1, 2 and accompanying text) a method for saving power in a touch screen by driving the system in a power saving mode if no input is detected (see column 3, line 58 to column 4, line 26). Hence, the skilled person would control the rigidity only when such a rigidity is needed (i.e. when the touch screen is not used, or it is readily rigid).
- 4.3. The features added by claim 7 (timer function for controlling the rigidity) are a standard means for triggering a power saving mode (see e.g. D5, column 4, lines 26 to 35). Those added by claim 8 (interrogating sensors even when input is performed) is a natural way of interrogating sensors. Those added by claim 9 (the user controls the rigidity of the sheet) is known from documents D2 to D4 (it is implicit that the user

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AUTHORITY (SEPARATE SHEET)**

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has some control on the heating system, otherwise having a programmable system would not have any sense).

- 4.4. Regarding feature 10, it is known from D1 to adjust the rigidity by a mechanical means, and the means of the present invention (retractible portion) is a widely known equivalent means to the mechanical structure of D1 which is known from the everyday's life. The features added by claim 11 (display screen) are known from D2 and D3 (see sections 3.2 and 3.3).
5. Because of the reasons indicated sections 1 to 4 above, claims 1 to 11 are not allowable. In view of the available prior art, it does not appear that any part of the application could serve as a basis for a new allowable claim. Thus, in the present case it would appear that a negative IPER should be issued.

Re Item VII

Certain defects in the international application

1. Contrary to the requirements of Rule 5.1(a)(ii) PCT, documents D1 to D5 are not identified in the description and the relevant background art disclosed therein is not at least briefly discussed.
2. No reference signs in parentheses have been inserted in the claims to increase their intelligibility (Rule 6.2(b) PCT).